A Proposed Islamic Microfinance Impact Assessment Methodology

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Abstract:

Impact assessment of microfinance programs have been remained the foremost concern of microfinance stakeholders for optimal policy measures. The existing literature regarding the impact assessment varies from parametric to experimental methods to evaluate the performance of microfinance programs across the world however; the literature is lacking a single measure to reveal maximum possible changes in socioeconomic variables resulting from microfinance institutions' intervention. This study aims to develop a composite index for evaluating the performance of microfinance programs in multi-dimensional contexts. The study exposes a set of eight "diverse indicators" to evaluate the performance of a microfinance program on a wider socioeconomic scale. The dimensions of the index are consist of economic (Income, saving) and socioeconomic (poverty, access to basic facilities, family empowerment) indicators. The changes in deprivations of household, based on the selected indicators, reveal the intensity of success of a microfinance program towards their goals. Finally, we have developed an index by the interaction of incidence and intensity of socioeconomic deprivations. The index is named as "Multidimensional Microfinance Deprivation Index". This is an index developed in the same line as multidimensional poverty index. The implications of this study are three folds; firstly, it will open up a new dimension of literature in the field of microfinance including Islamic microfinance by instigating an important area. Secondly, it may provide a better alternative to microfinance's stakeholders to investigate the impact assessment of microfinance programs on a wider socioeconomic scale rather than a few economic. Last but not the least, the study integrates diverse socioeconomic indicators, after assigning weights and adjustment to portray an overall picture of the performance of microfinance in terms of uplifting the socioeconomic conditions of the poor and financially marginalized people.

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1. Introduction:

Impact assessment studies of microfinance institutions are becoming prioritized concern in the realm of microfinance[2]. The existing literature on impact assessment varies from traditional methods to experimental methods used to evaluate the performance of microfinance programs in terms of targeting and improving the socioeconomic conditions of the poor.

Impact assessment of Microfinance Institutions (MFIs) is the most important perspective of all stakeholders; donors, government, regulatory authorities and MFIs by themselves. Impact assessment by itself is not an objective for the stakeholders rather it is a way to monitor the performance of MFIs in targeting their socioeconomic objectives. The selection of conventional approaches like randomized control trials, quasi experimental methods and parametric approaches, as impact assessment methods in isolation are incapable to properly investigate change in socioeconomic conditions of the poor and marginalized community members. Randomized Control Trails (RCTs) places program and clients randomly without taking any deliberate socioeconomic criteria therefore, this method is scientifically robust but socially and objectively weak. Similarly, quasi experimental and parametric approaches, being impact assessment methods are incapable to report changes in socioeconomic variables properly due to their corresponding shortcomings[1]. The following shows the appropriateness of conventional microfinance impact assessment approaches.

"Quasi experimental methods possess both; random and non-random characteristics. The clients (experimental group) are selected on the basis of certain established criteria while the non-clients (control group) are selected on the similar characteristics except credit"[2]. This method is capable to investigate net impact of microfinance on certain socioeconomic variables (income, saving, expenditure, poverty etc.). Like RCTs, quasi-experimental methods also have shortcomings. First, the selection of a well-compared control group; this approach particularly suffers from "selection bias" and "clients' self-selection bias[2]". Second, quasi-experiments lack the elements of randomness. Third, this method report average effect of MFIs on their clients. Fourth, the reliability of results reported by this approach depends upon the selection of well-compared control group. Parametric methods are also very common in the literature of microfinance impact assessments studies. [3-5]. These methods use a wide range of data which can produce robust results. The result thus produced can be generalized. Non-parametric methods are usually based on a set of assumptions which may yield statistically biased and inconsistent results.

Our major concern, in this paper, is not to highlight the deficiency of existing impact assessment methods however; we have very briefly indicated the drawbacks of RCTs, quasi-experimental methods and parametric methods. These drawbacks have attracted our attentions to develop a new comprehensive microfinance impact assessment approach. The new approach will be capable to

alleviate the issues resulting from the existing methods at one hand and will provide relatively a comprehensive platform for a broader socioeconomic investigation on the hand.

2. Why a New Impact Assessment Methodology?

As per our discussion in the previous section that major impact assessment methods suffer from some measurement biases like random program selection, random clients selection, short term investigation of socioeconomic variables (resulting from RCTs), selection bias, clients self-selections (resulting from quasi-experimental methods), biasedness and inconsistency of results (resulting from parametric methods)[2]. Notwithstanding, none of the method provide a combine benchmark (socioeconomics) to compare and contrast the aggregate performance of MFIs in a single point of time and in an inter-temporal context[2].

In order to take care of these weaknesses we try to develop a benchmark of socioeconomic indicators to investigate the impact microfinance institution on their clients. This study will open a forum for discussion regarding the newly developed index named as "Multidimensional Deprivation Index"

3. The advantages of Multidimensional Microfinance Deprivation Index (MMDI):

Multidimensional deprivation index provide an insight into the selected dimensions. It represents the socioeconomic and gender empowerment information about the selected households. The following are some of the advantages of this index.

i. It can help the MFIs to evaluate the impact of Islamic microfinance on their clients in the selected socioeconomics, living condition, and family empowerment related indicators.

ii. It can help the MFIs to provide an insight into the clients' deprivation, sources of deprivation and its intensity.

iii. MMDI has the potential to aggregate dimensional indicators into a single value to reveal an overall scenario. This scenario can help MFIs to know the households' profile in the selected dimensions. The MFIs can further use this information for selection of clients, policy implications, impact assessment etc.

iv. MMDI can be used to compare and contrast the performance of MFIs across the region and across the countries.

v. MMDI is capable to exclude or include areas specific dimensions or indicators.

vi. MMDI is free from traditional measurement errors such as selection bias because it does not choose a control group for comparison rather it uses the same clients as comparison (which is a better measure of comparison).

vii. MMDI particularly cures the disadvantages of Randomized Control Trials (RCTs). It has the potential to be used as a long term

microfinance impact assessment method. Unlike RCTs, it provides insight into indicators and dimensions rather to report only average effect. It is also applicable in country like Bangladesh where control group is difficult to be identified because of plenty services of microfinance.

4. Methodology:

This study uses multiple indicators to investigate the impact of microfinance on poor and low income groups. This study introduces diverse dimensions microfinance performance indices to evaluate the impact of microfinance on a wider socioeconomic scale. The methodology of the study consists of socio-economic (access to basic facilities, decent standard of life, social and gender deprivation, access to government/private financial facilities) indicators. The dimension indices are aggregated, by assigning weights to each dimension, based on theoretical and empirical studies conducted by prominent institutions. Figure-1 represents the process of development of Multidimensional Microfinance Deprivation Index. It has been developed with the help of various dimensions and indicators.

Figure -1: Flow chart of development of Multidimensional Microfinance Deprivation Index

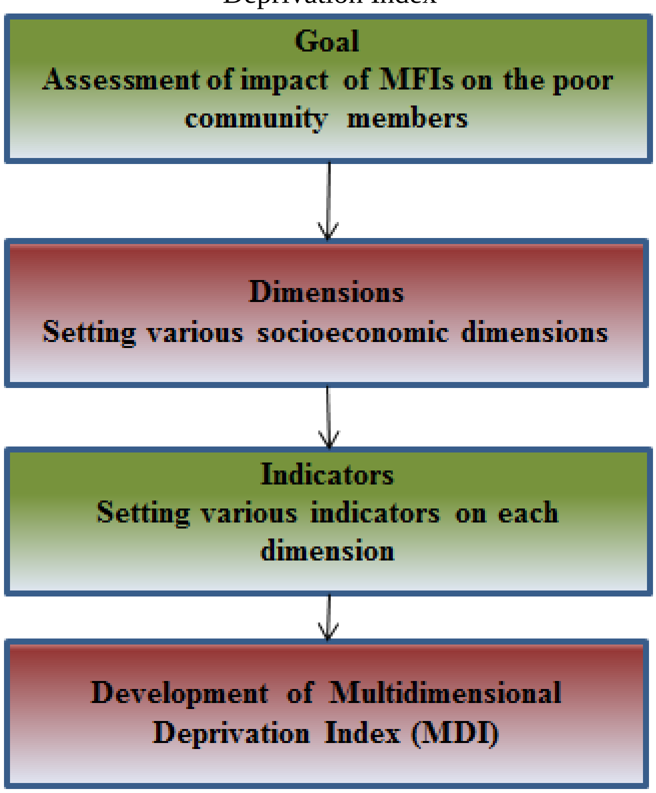


Figure-1 shows the steps involved in the development of multidimensional microfinance deprivation index. We establish various dimensions such as economic, financial accessibility, standard of life and family empowerment related indicators. In order to have a deeper understanding of these dimensions we have set different indicators on each dimension. Eventually, we have developed Multidimensional Microfinance Deprivation Index (MMDI) by assigning "double equal weights". First, all dimensions are given equal weight. Second, each indicator has given equal weight under each dimension (number of indicators in each dimension). The development of MMDI will help microfinance institutions to assess aggregate deprivation to initiate or extend the facility of microfinance at one hand and to evaluate their performance in terms of resolving these deprivations on the other hand. MMDI has the potential to be used for multiple tasks. The following table shows the detail about dimensions, weights and indicators.

The MMDI is an index designed to measure households' deprivations in diverse dimensions. The poor are not deprived in a single aspect (income or health or social aspects etc.) rather they are deprived in multiple aspects therefore; a proper investigation will reveal their multidimensional deprivations based on selected indicators at one hand while the intensity of deprivations for each dimension on the other hand. The MMDI helps to identify ***incidence of deprivation*** and ***intensity of deprivation***. The combination of both; the incidence and intensity of deprivation provides insight into ***pattern of deprivation*** such as what is the contribution of each indicator and dimension in total deprivation?

Source: Alkire and Santos [1]

Technical Box-1: Definition of MMDI

4.1 Steps towards the development of MMDI:

Multidimensional deprivation index construction requires several steps. We explain these steps one by one.

a. Selection of dimensions:

The dimensions of MMDI are set in broader objectives of Islamic microfinance institutions. Most Microfinance Institutions (MFIs) are in general and Islamic Microfinance Institutions in particular are double bottom line institutions. They simultaneously focus on their twin objectives; commercial and social success. These institutions therefore, try to extend the facility of microfinance to poor and financially marginalized people [6-9]. Islamic MFIs, particularly interested in the socioeconomic uplifts of the people thus they particularly focus on family empowerment unlikely conventional MFIs which focus on women empowerment [10]. Keeping into consideration this scenario, the broader dimensions are set as; Economic, standard of life, and family empowerment. These dimensions represent a broader scenario of deprivation of the clients in three major aspects.

i. Economics dimension

Economic dimension represents the economic aspects of the households. Economic dimension comprises of three aspects; income and saving, and ownership of residential house. Information about income, saving, and ownership of residential house represent economic health of the household, their vulnerability to economic deprivation and their suitability for credit. A household will be considered as deprived on economic dimension if none of the household member has a prescribed amount in terms of gold or silver or cash or a combination of all these three for an entire Islamic calendar year.

Islam emphasizes on saving for positive and creative activities to help in generating maximum possible welfare. There are four motives of saving in Islam; precautionary, investment, financing future consumption and the benefits of heirs. Thus Islamic philosophy of saving has one addition motive (benefits of heirs) than conventional economics. If a household cannot save and sustain a minimum prescribe amount (equivalent to the market value of 52.5 tola silver, or 7.5 tola gold or an either equal amount of cash) for entire Islamic calendar year the household will be considered as deprived on economic dimension.

Access to basic facilities such as shelter, clean drinking water, education, health facilities etc., are considered as fundamental economic rights in Islamic as well conventional contexts. If an individual does not have access to these facilities will be considered as deprived. If an individual does not own a residential house then the members of the household are deprived on economic dimension.

iii. Living conditions:

Living conditions such as access to clean drinking water, electricity and adequate sanitation represent a direct measure of standard of life. An assessment on these aspects represents a direct picture that whether the intervention of MFIs has brought any changes to living standard of the

clients or vice versa. The household is considered as deprived if the household does have access to clean drinking water or clean water is more than 30 minutes' walk from home (round-trip time)[1]. Similarly, the household is deprived, on living conditions dimensions, if the household members share toilet. Finally, the household is deprived on living conditions, if the household has no electricity.

iv. Family empowerment:

Family empowerment is the last dimension of MMDI. Family empowerment is represented by two indicators; the participation of male and female family members in economic decisions such as sale, purchase, borrowing etc., and participation of both male and female at household level social decisions such as marriage, engagement, and social relations etc. This aspect particularly represents the role of MFIs towards the achievement of their social goals such as social empowerment of entire family. Any positive change in these aspects resulting from the intervention of MFIs will represent the achievement of their social goals and vice versa. Eventually, MMDI has been developed to represent aggregate socioeconomic impact as a single index.

4.2 Step by step methodology and the application of MMDI

Step-1: Obtaining the data:

The first step of MMDI starts with data. From where the data can be obtained for the development of index? This is really a crucial question that needs to be answered. The ideal way is to collect data from micro surveys about microfinance institutions if fortunately available. Mostly in developing countries, we lack such surveys. To collect information about the MMDI dimensions and indicators is not a big deal. Most of the MFIs obtained this information at the beginning of credit intervention. Thus the information obtained at the beginning will be considered as based period and the new information about the selected indicators at the current time period will be considered as comparison year information. Thus a microfinance institution can measure its performance without any comparison to other microfinance institution. If a microfinance institution lacks this information at the beginning of microfinance program, still it is applicable to know multidimensional deprivation of their clients in broader socioeconomic conditions to adopt optimal policy measures in the future. The Index can be used for comparative context as well but the data thus obtained from various sources will be standardized first.

Step-2: Dimension and indicators:

The dimensions of MMDI are set in broader objectives of microfinance institutions. Most Microfinance Institutions (MFIs) are in general and Islamic Microfinance Institutions (IMFIs) are in particular, are double

bottom line institutions. They simultaneously focus on their twin objectives; commercial and social success. These institutions therefore, try to extend the facility of microfinance to poor and financially marginalized people [6-9]. There is no hard and fast rule of selection of dimensions and indicators. It may be ***area specific***, ***impact specific*** and ***country specific*** etc. It can be easily adjusted or replaced for different indicators and dimensions.

Step-3: Deprivation cut-off:

Next we go for indicators cut-off. There must be some rationality behind the cut-off of indicators. These cut-offs may be assigned on the basis of facts and figures and minimum standards. These cut-offs can be adjusted or replaced according to cultures and minimum standards set in different places. For detail of these cut-offs for each indicators of MMDI go to technical box-2 bellow. These cut-offs are set in with help of MPI indicators.

1. Economic indicators	
No prescribe amount of Income	If none of the household member has at least prescribed amount in terms of gold or silver or cash or a combination of all these three for an entire Islamic year
No prescribe amount of saving	If a household cannot save and sustain a minimum prescribe amount (equivalent to the market value of 52.5 *tola* silver, or 7.5 *tola* gold or an either equal amount of cash) for entire Islamic calendar year the household will be considered as deprived on economic dimension.
No ownership of residential house	Deprived if the household members do not have their own residential house
3. Living conditions	
No access to clean drinking water:	Deprived if a household does have access to clean drinking water or clean water is more than 30 minutes' walk from home (round-trip time).
No access to adequate sanitation	Deprived if the household members share toilet
No electricity:	Deprived if the household has no electricity
4. Women empowerment	

No participation of women at economic decisions at household level	Deprived if no joint participation of male and female family members in economic decisions such as sale, purchase, borrowing at household level
No participation of women at social decisions at household level	Deprived if no joint participation of male and female family members in social decisions such as engagement, marriage, social relations at household level

Technical Box-2: Thresholds of MMDI

Step-4: Indicators' weights

The indicators of MMDI are assigned double equal weight. All dimensions are weighted equally and then all indicators within each dimension are weighted equally. The details about weight and indicators is given in the following Table-1

Table-1: Composition of MMDI, dimensions, weights and indicators

	Dimensions	**Dimensional weight**	**Indicators**	**Indicators weight**
MMDI	Economic	33.3 % (1/3)	1. No source to earn prescribed amount of income. 2. No sustained saving equivalent to prescribed amount of income for entire Islamic year 3. No ownership of residential house	11.1 %
	Living Conditions	33.3% (1/3)	1. No access to clean drinking water 2. No access to adequate sanitation 3. No electricity	11.1 %
	Family Empowerment	33.3 % (1/3)	1. No joint participation of male and female family members in economic	16.65

			decisions such as sale, purchase, borrowing at household level. 2. No joint participation of male and female family members in social decisions such as engagement, marriage, social relations at household level	

Source: Developed by the authors with the help of MPI construction

Table-1 shows detail about dimensions, indicators and weight assigned to each dimension and indicator. The weight is assigned to each dimension and indicator by double equal weight process – first equal weight is assigned to each dimension and then equal weight is assigned to each indicator within each dimension. The dimensions and indicators represent the socioeconomic and family empowerment deprivations.

Step-5: The Aggregate Deprivation Cut-Off

The deprivation score of each client will be calculated with the help of a weighted sum of the number of deprivations, so that the deprivation score for each person lies between 0 and 100. The score increases as the number of deprivations of the person increases and reaches its maximum of 100 when the client is deprived in all component indicators. A person, who is not deprived in any indicator, receives a score equal to 0. Thus;

0 → no deprivation at all on the selected indicators.

100 → Extreme Multidimensional Deprivations based on the selected indicators.

Intensity of multidimensional deprivation is negligible if household score is less than 33. Moderate multidimensional deprived if household score is between 33 and 66. High multidimensional deprived if household score is > 66 but less than 75. Very high multidimensional deprived if the household score is > 75

Step-6: Multidimensional Deprivation for an Intervention Area

The combination of both incidence and intensity of deprivations will finally yield Multidimensional Deprivation Index (MMDI) for an intervention area of microfinance institution.

MMDI = (Intensity of deprivation)*(Incidence of deprivation)

6. Conclusion and Policy Implications

Microfinance impact assessment is an important area of interest for major stakeholders of this industry. The paper briefly evaluate the existing microfinance impact assessment approaches namely; i.e. randomized control trials, quasi experimental and parametric approaches. None of the conventional microfinance approach can be used as a single impact assessment method due to technical flaws. The policy implications of the study are three folds; first, it will open up a new dimension of literature in the field of microfinance including Islamic microfinance by instigating an important area among the academicians and researchers. Second, it will provide a better alternative to microfinance stakeholders to investigate the impact assessment of microfinance programs on a wider socioeconomic scale rather than a few economic indicators. Thirdly, the application of these indices is equally important to evaluate the performance of conventional microfinance programs as well. Last but not the least, the study integrates diverse socioeconomic indicators, after assigning weights and adjustment for inequalities, to portray an overall picture of the performance of microfinance in terms of uplifting the socioeconomic conditions of the poor and financially marginalized people.

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11. For more details about the experimental and non-experimental impact assessment methods please see paper entitled "A Critical Investigation of the Selected Contemporary Microfinance Impact Assessment Methods: Lesson Learned for Islamic Microfinance Institutions" submitted for 9th Islamic Economics and Finance conference.

12. Self-selection or clients' self-selection bias means that clients who offer themselves for credit may have better entrepreneurial skills and organizational abilities. This may affect the impact of microfinance and will yield upward bias.